

[Bush Skills \(/overland-tech-travel/?category=Bush+Skills\)](/overland-tech-travel/?category=Bush+Skills), [Equipment \(/overland-tech-travel/?category=Equipment\)](/overland-tech-travel/?category=Equipment), [Repair \(/overland-tech-travel/?category=Repair\)](/overland-tech-travel/?category=Repair)

Battery welding done right (/overland-tech-travel/2016/5/2/battery-welding-done-right)

Jonathan Hanson (/overland-tech-travel/?author=502d020ae4b0b0975770cfbe) · May 2, 2016 (/overland-tech-travel/2016/5/2/battery-welding-done-right)



The magic of battery welding has been known to field mechanics for years now, and one of the most popular classes at the Overland Expo is the hands-on introduction to the skill, taught by experts such as welding wizard Tim Scully. Briefly, by combining several standard automotive

Search

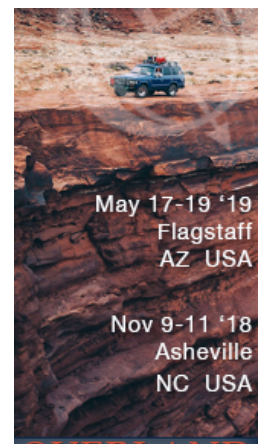
Index of Past Posts ▾

RETURN TO L
([HTTP://WWW.EXPLORING
TECH-TRA](http://www.exploringoverland.com/tech-travel/))

SUBSCRIBE

Overland News is our monthly email report on all things overland—including Overland Expo and our trip and training announcements. **CLICK HERE** (<http://www.overlandexpo.com/overlandnews/>) to **subscribe** (opens new window, on the Overland Expo website).

📡 Overland Tech & Travel RSS
(<http://www.exploringoverland.com/tech-travel/?format=rss>)



batteries in series—that is, positive terminal to negative terminal, in a chain—you create in effect one large 24V (with two batteries) or 36V (three batteries) cell, and this produces enough power to weld a lot of things that can be prone to breaking on vehicles used in rugged conditions: shock and spring mounts, motor mounts, ancillary brackets, roof racks—the list is endless, and full of items that can bring a trip to a sudden halt.

Until now, most impromptu battery welding has been jury rigged with standard jumper cables. While this works, it is far from ideal. Jumper-cable wire is cheap stuff designed for a few second's starting duty at a time; its coarse strands are inefficient at conducting the power produced by series-connected batteries. And the toothed clamps, although adequate for attaching to battery terminals, are poor for gripping slender welding rods. In addition, you need a way to connect the batteries to each other, which either requires another set (or two) of jumper cables, or yet more jury rigging with your existing battery leads.

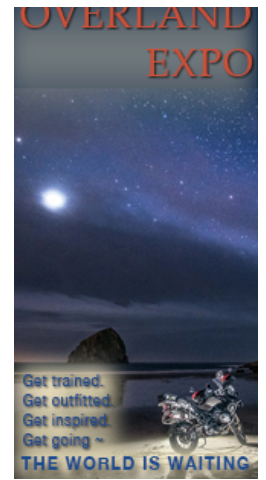
All that just ended, thanks to the Trail Weld kit, developed by Tim Scully himself. Tim evaluated the compromises that go into the normal battery-welding setup, and fixed them all.

- The cables are now fine-strand, four-gauge Temco welding wire, with 360-degree crimps on all fittings. A 12-foot length on positive and negative leads allows you to put a safe distance between the batteries and sparks. The flexible cable makes controlling the clamp and rod much easier.
- The positive lead ends in a proper welding-rod clamp, and the negative lead ends in a dedicated ground clamp.
- Two short leads of Temco wire make quick work of connecting batteries, and reduce voltage loss.
- All battery connections are high-quality terminal clamps, greatly enhancing conductivity and thus efficiency.
- All connections are color-coded with heat-shrink wrap.
- A selection of correctly sized welding rods is included in a plastic protective case.
- A pair of self-powered auto-darkening goggles is also included.
- Available containers range from a simple bag to a .50-caliber ammo can to a Pelican Case.

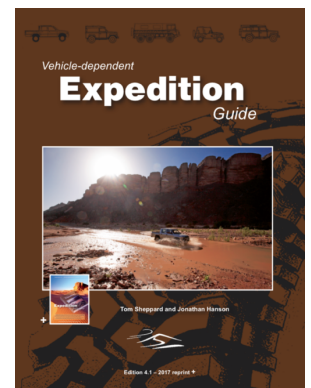
The complete system is so efficient that Tim reports two batteries are sufficient to weld material that requires three if using jumper cables. As he told me, "If you are using three batteries you'd better be welding at least quarter-inch-thick stock." Since an increasing number of overland vehicles these days are equipped with two batteries, that means you can be completely self-sufficient for field-welding repairs.

For welding amateurs such as myself, the auto-darkening goggles make all the difference when welding with rod, as there's no pre-positioning the rod at the correct gap and then fumbling with a standard goggle or, worse, a jury-rigged square of welding glass taped to a cardboard face shield, as I've always carried. (Of course you'll still want face, arm, and hand protection.)

For more information, visit the Trail Weld site, here (<http://www.trailweld.com>). At the upcoming Overland Expo WEST, Trail Weld kits will be on display during the welding classes, and available for purchase at the 7P booth. Highly recommended.



(<http://www.overlandexpo.com>)



(<http://www.exploringoverland.com>,

BOOKS



(<http://www.overlandexpo.com/gea-shop>)

OVERLAND DECALS, HATS, T-SHIRTS & MORE . . .



(<http://www.fourwheelcampers.c>

♥ 4 Likes ↻ Share

COMMENTS (3)

Newest First Subscribe via e-mail